UNITED STATES PATENT AND TRADEMARK OFFICE

NOTICE OF ALLOWANCE AND FEE(S) DUE

30671	7590	03/23/2010

DITTHAVONG MORI & STEINER, P.C.
918 Prince Street
Alexandria, VA 22314

EXAMINER
SAMS, MATTHEW C

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 03/23/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,924	03/26/2004	Toni Kopra	P3567US00	9401

TITLE OF INVENTION: FEATURE EXTRACTION IN A NETWORKED PORTABLE DEVICE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	06/23/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: <u>Mail</u>

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or <u>Fax</u> (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

    30671   7590   03/23/2010

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918 Prince Street
Alexandria, VA 22314

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,924	03/26/2004	Toni Kopra	P3567US00	9401

TITLE OF INVENTION: FEATURE EXTRACTION IN A NETWORKED PORTABLE DEVICE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	06/23/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
SAMS, MATTHEW C	2617	455-414100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.   ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,924	03/26/2004	Toni Kopra	P3567US00	9401

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30671	7590	03/23/2010	SAMS, MATTHEW C

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 343 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 343 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

	Application No.	Applicant(s)
Notice of Allowability	10/810,924	KOPRA ET AL.
	Examiner	Art Unit	
	MATTHEW SAMS	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *12/18/2009*.

2. ☒ The allowed claim(s) is/are *1-9,12,16-20,22-27,30,35,37,38,40 and 47-70*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some* c) ☐ None of the:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the
           International Bureau (PCT Rule 17.2(a)).
    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
      Paper No./Mail Date _____ .
   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08),
   Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
   Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee. Note: "non-transitory" has been

added to overcome a 35 U.S.C. 101 rejection and claims 48-49 have been amended to

overcome a 35 U.S.C. 112 6th paragraph rejection.

The application has been amended as follows (please add the underlined words):

23.   A non-transitory computer readable storage medium embodied with a

computer program comprising:

a first set of computer instructions to extract in response to a user input on a

device a first set of lower level but not higher level features from a digital media sample,

and to extract in response to a received request message to the device from a remote

service, through wireless communications, a second set of lower level but not higher

level features consistent with at least one additional feature requested in the request

message;

a second set of computer instructions to transmit in separate messages the first

and second sets of extracted lower level but not higher level features over a wireless

communications link to a remote service for any necessary higher level feature

extraction for matching in conjunction with the first and second sets of lower level

features; and

a third set of computer instructions for receiving a notification of identification of a media corresponding to the media sample from the remote service.

24. The non-transitory computer readable storage medium of claim 23 wherein said separate messages comprise features but no portion of the digital media sample.

25. The non-transitory computer readable storage medium of claim 23 wherein the request message specifies a number of additional features, and the first set of computer instructions is to adaptively select the second set of features comprising the specified number.

26. The non-transitory computer readable storage medium of claim 23 wherein

the first set of computer instructions is to adaptively select a type of feature to extract based on the request message and to extract the first set of features of the adaptively selected type.

27. The non-transitory computer readable storage medium of claim 23 wherein

the first set of computer instructions is to extract the first set of features from a first time-bounded segment of the digital media sample, and

the second set of computer instructions is to transmit a second time-bounded segment and not the first time-bounded segment with the first set of features

30. The non-transitory computer readable storage medium of claim 23 wherein the at least one feature defines a timepoint, the first set of computer instructions is to extract at least one timepoint from the digital media sample, and one of said messages comprises a timepoint, a spectral slice of the digital media sample and an identifier that links the spectral slice to the timepoint.

35. The <u>non-transitory</u> computer readable storage medium of claim 23 wherein the first set of features is non-reconstructive of that digital media sample.

37. A <u>non-transitory</u> computer readable storage medium embodied with a computer program comprising:

a first set of computer instructions to receive over a network to a remote service from a device through wireless communications a first message that includes a first set of received lower level but not higher level features;

a second set of computer instructions to search a database of feature sets for all matching sets that match the first set of received features and to determine at least one additional feature that distinguishes among each of the matching sets;

a third set of computer instructions to transmit over the network a request message that stipulates the at least one additional feature, the first set of computer instructions further to receive over the network a second message that includes a second set of received lower level but not higher level features in response to the request message that stipulates the at least one additional feature; and

a fourth set of computer instructions to uniquely identify one feature set from among the matching sets using the second set of received features through any needed extraction of higher level features wherein an iterative loop is performed in which a Kth higher level feature is extracted using the first and second sets of received lower level features, a matching feature set is searched using the Kth higher level feature, and the addresses of the feature sets that match the Kth higher level feature are stored as the

matching feature set until a unique match is determined, where K is natural number from 1 to a maximum number of higher level features.

38. The <u>non-transitory</u> computer readable storage medium of claim 37 wherein each feature set is associated with a media file title, the computer program further comprising a fifth set of computer instructions to transmit, over the network to a sender of the message, a reply message that includes the media file title.

40. The <u>non-transitory</u> computer readable storage medium of claim 38 wherein the fourth set of computer instructions further is to determine a link address for a media file uniquely associated with the uniquely identified feature set, and wherein the fifth set of computer instructions is further to transmit the link address in the reply message.

47. The <u>non-transitory</u> computer readable storage medium of claim 37 wherein the request message includes at least one of a number of additional features and a type of the at least one additional feature.

48. An apparatus comprising:

<u>interfacing</u> means for receiving a media sample;

processing means for extracting at least one feature from a digital version of the media sample, said processing means responsive to a user input to extract a first set of lower level but not higher level features and responsive to a request message identifying at least one additional feature to extract a second set of lower level but not higher level features consistent with the identified at least one additional feature;

<u>transmitting</u> means for transmitting the first and second sets of lower level but not higher level features in separate messages over a wireless communication link to a

remote service for any necessary higher level feature extraction for matching in conjunction with the first and second sets of lower level features; and

receiving means for receiving the request message through wireless communications and for receiving notification of an identification of a media corresponding to the media sample from the remote service.

49. The apparatus of claim 48, wherein the interfacing means for receiving a media sample comprises a transducer, and the processor means for extracting comprises a digital processor.

52. The non-transitory computer readable medium of claim 23, further comprising initiating identification of media from the media sample through activating a button for identification of media.

2.   The following is an examiner's statement of reasons for allowance:

Applicant's independent claim 1 recites, *inter alia*, an apparatus comprising: an interface configured to receive a media sample, a processor configured to extract a first set of lower level but not higher level features form a digital version of the media sample, a transmitter configured to transmit the extracted first set of lower level but not higher level features over a wireless communication link, a receiver configured to receive over the wireless communication link a request message that requests at least one additional feature, wherein the processor is further configured to respond to the request message to extract a second set of lower level but not higher level features from the digital version of the media sample and to transmit the extracted second set of

lower level but not higher level features over the wireless communication link to a remote service for any necessary higher level feature extraction for matching in conjunction with the first and second sets of lower level features, wherein the receiver is configured to receive notification as to identification of a media corresponding to the media sample from the remote service. Applicant's independent claim 48 recites similar limitations in a means plus function form.

Applicant's independent claim 23 recites, *inter alia*, a non-transitory computer readable storage medium embodied with a computer program comprising: a first set of computer instructions to extract in response to a user input on a device a first set of lower level but no higher level features from a digital media sample, and to extract in response to a received request message to the device from a remote service, through wireless communications, a second set of lower level but not higher level features consistent with at least one additional feature requested in the request message, a second set of computer instructions to transmit in separate messages the first and second sets of extracted lower level but not higher level features over a wireless communications link to a remote service for any necessary higher level feature extraction for matching in conjunction with the first and second sets of lower level features and a third set of computer instructions for receiving a notification of identification of a media corresponding to the media sample from the remote service.

Applicant's independent claim 50 recites a method comprising: at a portable wireless device, receiving a media sample and extracting a first plurality of lower level but not higher level features from a digital version of the media sample, transmitting

from the portable wireless to a remote service device a message that includes the extracted first plurality of lower level but not higher level features, receiving at the portable wireless device a request message requesting at least one additional lower level but not higher level feature, at the portable wireless device, extracting at least one extra lower level but not higher level feature consistent with the request message, transmitting from the portable wireless device a message that includes the extracted extra lower level but not higher level feature to the remote service for any necessary higher level feature extraction for matching in conjunction with the first and second sets of lower level features and receiving a notification of identification from the remote service.

Applicant's independent claims recite a back and forth wireless communication between a first device and a second device in order to extract more data to be able to identification a media sample. While taking fingerprints of audio files or extracting features from an image in order to identify the media file or image is known (Laroche US-6,453,252, Torr et al. US-6,741,757, Levy US-2005/0176366, Swierczek US-6,941,275, Neogi US-2005/0197724, Klefenz et al. US-7,035,742, Kenyon US-7,174,293 and Wells US-7,328,153), however the cited prior art recites a novel combination of steps/features. Applicant's independent claims are allowed for this reason and the reasons stated by the Applicant 9/18/2006, 2/9/2007, 8/2/2007, 11/5/2007, 5/12/2008, 10/9/2008, 4/13/2009, 9/24/2009 and 12/18/2009.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW SAMS whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MATTHEW SAMS/
Examiner, Art Unit 2617

        /LESTER KINCAID/
        Supervisory Patent Examiner, Art Unit 2617